UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PUBLIC SCOPING MEETING ON INTENT TO PREPARE DRAFT SUPPLEMENT TO GENERIC ENVIRONMENTAL IMPACT STATEMENT ON DECOMMISSIONING OF NUCLEAR FACILITIES

Doubletree Guest Suites
Atlanta-Perimeter
6120 Peachtree Dunwoody Road
Atlanta, GA 30328
Tuesday, June 13, 2000

The above-entitled meeting commenced, pursuant to notice.

P R O C E E D I N G S

MR. CAMERON: My name is Chip Cameron. I'm the Special Counsel for Public Liaison at the Commission and it's my pleasure to serve as your moderator tonight. This microphone may seem a little bit like overkill in this more intimate space; but we need to use it, so that the transcriber -- the stenographer can pick up the comments and the presentations of the NRC staff. Before we get started, I just wanted to cover three topics briefly: one is the objectives to the meeting tonight; a second is the format and ground rules for the meeting; and the third, I just want to give you a little bit of an overview of the agenda before we get into the substance of the issue tonight.

In terms of objectives, the NRC wants to provide you with information on the environmental impact statement process, including why the NRC is preparing a generic environmental impact statement on this issue, at this time. We, also, want to give you background on the decommissioning process. But most importantly, we want to hear any comments or suggestions that you might have on these issues that the NRC should evaluate, in preparing the generic environmental impact statement. In this regard, this stage of the environmental impact statement process in this meeting is

called scoping and the environmental impact statement is going to assist the NRC in making decisions on the reactor decommissioning process. And scoping helps the NRC to identify information on the types of environmental impacts, alternatives, new information that should be evaluated by the NRC in preparing the environmental impact statement.

Now, we're, also, asking for written comments on these issues, but we wanted to be with you tonight personally to talk to you about these issues and provide information to you. Hopefully, this will give you an idea of what other people in the community might feel about these issues and help you, if you want to prepare written comments to submit to us, some of the information you hear tonight may help in that regard. But, I want to emphasize that any comments that you make tonight, be it in a dialogue with the NRC staff or written -- spoken statement, will be considered by the NRC, in preparing the scoping report that's going to come out on this meeting.

In terms of ground rules, they're very simple and they're aimed at helping all of us have an effective meeting tonight. We're going to have some brief presentations for you, to give you some context and background information. And we want to spend most of the time talking -- and as of

right now, we don't have a lot of people here, so we have a lot of time to discuss the issues. But after each presentation, there's two presentations, we'll open it up to comments or any questions you have on that particular presentation. And when we do get to those discussion parts of the agenda, if you do want to say anything, just signal me and I'll bring you this talking stick and if you could just give your name and affiliation, if appropriate, so that we can get that down on transcript. We are keeping a record, so that we can evaluate comments, in that regard.

Usually, at this point, I say, let's please only have one person at a time speaking, so that we can get a clean and clear transcript, so that we can listen to what everybody has to say, the person who has the floor at that time. I don't think that I need to belabor that point. And there's no -- usually, we don't set any time limit on the interactive part of the discussion or the number of comments or questions that people have, and that's especially true tonight, since we're not going to be pressed for time, I don't think.

When we get to the -- after we're done with both of the presentations and discussion on that, we're going to have an open discussion period for anything that hasn't been

brought up before and to allow people to read statements into the record. And in that regard, I would ask you to keep those to 15 minutes. And if you do have something prepared, even if it might be rough, we'll, also, include that -- attach that to the transcript.

Okay. In terms of objective -- or in terms of agenda, we're going to start out with an overview of why and how the NRC plans to develop a environmental impact statement on reactor decommissioning, and Dino Scaletti, right here, from the NRC staff, is going to do that presentation. He's the project manager for the NRC on the development of this generic environmental impact statement. He's in our Office of Nuclear Reactor Regulation. And we'll then go to questions and discussion.

And then we're going to give you some background on reactor decommissioning process and the NRC, on the development of the environmental impact statement, is being assisted by experts in the field from Pacific Northwest National Laboratory. And we have Becky Harty with us tonight, who is the project manager from the Lab's point of view on developing the GEIS. And we'll have discussion after that. We note that we do have people here from our Office of General Counsel and from our regional office, as

well as our Office of Nuclear Material Safety and Safeguards, so we're prepared to answer any questions that you might have on this whole process.

And the focus is the development of an environmental impact statement on reactor decommissioning, which is already a pretty broad subject. There may be other concerns that you might want to bring up and we'll be more than glad to listen to those and to try to answer any questions on that, if possible. But, we do want to keep the focus on the development of the environmental impact statement and to hear any ideas that you may have on what we should look at in developing that statement. And I would just thank you for coming out and for being with us tonight and I hope that we can give you some clear and useful information about this particular process.

And Dino, I guess I would turn it over to you right now, if you're ready to go. And I might add that we do have a representative of the Environmental Protection Agency regional with us tonight. All right.

MR. SCALETTI: Thank you, Chip. Good evening. As Chip said, my name is Dino Scaletti from the Nuclear Regulatory Commission, Office of Reactor -- Nuclear Reactor Regulation. I want to thank you for coming tonight. And I

would like to introduce here at the table Mr. Carl Feldman, who is with our decommissioning group, as well as counselor from our Office of General Counsel, Mr. Steven Lewis. And Chip has already introduced Becky to you.

The U.S. Nuclear Regulatory Commission was formed as a result of the Atomic Energy Act of 1953 and the Energy Reorganization Act of 1974. One other thing, and we have Ms. ~~Itoy~~Etoy Hilton from headquarters office, who is manning our table -- our sign-up table. The NRC's mission is to regulate the nation's civilian use of nuclear materials, to ensure adequate protection of the health and safety of the public and workers and to protect the environment and to provide common defense and security.

The NRC accomplishes its mission through regulations, licensing, inspection, and enforcement. The NRC regulations are issued under Title 10 of the United States Code of Federal Regulations for Commercial Power Reactors. The NRC regulatory function includes licensing of these facilities. A nuclear plant license is based upon a set of established regulatory requirements that ensure the design and proposed operation are performed based on radiological safety standards. The NRC conducts routine inspections, to ensure the plant design and operations

conform to the license requirements and enforcement actions are taken, in the event that we find that any license requirement are not being satisfied.

NRC's responsibility for nuclear power reactors are for the entire life cycle of the facility, from construction through license termination. The NRC maintains a license and continues to regulate the safety of the facility through the decommissioning process, until the license is terminated. The NRC is concerned with nuclear plant safety. As a result, the NRC requires the licensees to maintain technical specifications and a safety analysis report, or, in this case, it's a defueled safety analysis report, throughout the decommissioning process. But, we are, also, concerned with the protection of the environment. It is the environmental impacts associated with decommissioning process that is a focus of this meeting tonight.

The purpose of this meeting is to discuss a generic environmental impact statement, or GEIS, on the decommission of permanently shut down nuclear power reactors that the NRC is proposing to write. We'll explain what the GEIS is, how it is used, and when it is used. We're, also, going to provide you with some background information on nuclear reactor decommissioning. But, first, we'll describe

the process set forth in the National Environmental Policy Act, or NEPA, for developing a generic environmental impact statement. Most importantly, the reason we're here is to listen to your comments or statements regarding the development of this GEIS.

Today's meeting is not a formal hearing, but an opportunity for the NRC to gather information about the public's potential concern about the environmental impacts from decommissioning. Today's meeting, also, provides for an opportunity to describe to you the steps that occur during the preparation of a generic environmental impact statement and to indicate to you the schedule that will be used in the development of this document.

Next, I want to talk about the NEPA process. The National Environmental Policy Act was established in 1969. NEPA places the responsibility upon federal agencies to consider significant impacts of aspects of the environmental impact of a proposed action. It requires that all federal agencies use a systematic approach to consider the environmental impacts during the decisionmaking. The NEPA process is, also, structured to ensure that the federal agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process and

invite public participation to evaluate the process. This meeting is part of that process and, also, this meeting is required by 10 CFR Part 51 of our regulations.

NEPA requires that an environmental impact statement or assessment be prepared for all major federal actions. Supplements to drafts or final EISs are required when there are significant new circumstances or information relative to environmental concerns. This is a situation wherein with the new regulation and the additional experience from decommissioning facilities, it is an appropriate time to supplement or revise the original GEIS on decommissioning.

Generic environmental impacts statements are allowed in cases where there is a need to address generic impacts that are common to a number of similar proposed actions or similar facilities. The actions we are looking at, as I mentioned previously, is the environmental impact related to decommissioning of commercial nuclear power reactors.

What exactly is a generic environmental impact statement for decommissioning? The generic environmental impact statement identifies the environmental impacts that may be considered generic for all nuclear reactor

facilities. It, also, identifies the environmental impact that need to be considered in more detail, as site-specific issues for each facility. The generic environmental impact statement will take into account a range of environmental impacts from different nuclear facility designs, decommissioning methods, and different locations for the facilities.

The GEIS is used to focus the analysis of environmental impacts. It helps us determine which of the impact are site specific and need to be considered separately for each nuclear power facility that is decommissioning, and which impacts are generic and can be evaluated as part of the GEIS and not reevaluated every time a plant enters decommissioning. This allows us to spend time and resources that are required to focus in on the impacts that are necessary for a particular site. The GEIS does not preclude a site specific look at each facility. Some issues like those related to the presence of endangered species or threatened species will always be site specific. We will need -- they will need to be addressed separately from the GEIS. The GEIS just allows us to focus better on these site-specific issues.

The GEIS is, also, used as a basis for determining

if additional rulemaking is required related to environmental impacts of decommissioning -- of the decommissioning process. If it is determined that additional rulemaking is required, the generic environmental impact statement will serve as a basis for that rulemaking.

The generic environmental impact statement is used throughout the entire decommissioning process. The NRC's regulations require that no decommissioning activities be performed that would result in significant environmental impacts that have not been previously reviewed. This means that every time a licensee starts a new activity, they must determine if it would result in an environmental impact that was not reviewed in the GEIS or in a formerly environmental impact statement that was written at the start of the operation for that facility or any subsequent environmental analysis that were reviewed and approved by the NRC.

In addition, a hard look is taken at the environmental impacts at the stage that the post-shutdown decommissioning activities report is submitted. This is probably two years after shutdown and before any major decommissioning activity can occur at the site and the licensee determination plan stage, which occurs two years before the end of the decommissioning. Becky will talk more

about these stages in a few minutes.

The question is why we are supplementing the existing generic environmental impact statement on decommissioning. The original document for decommissioning was published in 1988; therefore, it is over 12 years old. Since the original document was published, there has been new regulations related to decommissioning that were issued; for example, the regulation requiring the submittal of a post-shutdown decommissioning activities report and a license termination plan, which Becky will describe later. In addition, there have been regulations, such as environmental justice, which relate to whether federal actions disproportionately impact low income and minority populations. These regulations were not in place -- this regulation was not in place in 1988.

In addition, since 1988, there has been an increase in the amount of decommissioning experience in the U.S. Currently, 21 commercial nuclear facilities have permanently ceased operation. As a result, there is over 300 years worth of decommissioning experience, resulting in a lot of new information available regarding the environmental impacts of decommissioning of commercial plants.

And, finally, there have been several new issues that were not considered in the 1988 generic environmental impact statement. These include rubblization, which entails completing the decontamination and leaving the concrete structures rubblized and buried below grade on the site; partial site release, which involves releasing the clean part of the site before the decommissioning is completed, and the reason we bring that up here, because there have been questions on it in our past two meetings; and, finally, entombment, which although it was considered in the 1988 generic environmental impact statement, may need to be reconsidered in a somewhat different form, to allow for the possibility of some substantial decontamination or removal of large components to entombment -- prior to entombment.

We are unaware of any other decommissioning methodologies or techniques that may be considered by industry that could be included in the GEIS. However, as part of the scoping process, we are hoping that if there are additional decommissioning methods, that we will learn about them and be able to incorporate them in the GEIS.

The original generic environmental impact statement was published in 1988, as NUREG 0586. It looked at decommissioning at all sorts of facilities that hold

licenses with the NRC. The revised GEIS, however, stated in full, will only address permanently shut down reactors and will not include decommissioning of fuel fabrication plants or independent spent fuel storage facilities. It will be published as a supplement to NUREG 0586, so the information related to the decommissioning of the other types of facilities will still be maintained in the original GEIS. The new information will be -- on the power reactors will be published in the supplement.

The NEPA process follows certain steps that the NRC is required to follow. The NRC is required to follow this process, which provides consistency for all EISs prepared by all federal agencies. The first step in the process is the notice of intent, which is published in the Federal Register. The Notice of Intent informs the public that an EIS is going to be published. The notice outlines what the process is going to be, invites the public to come and participate, announces the location and time of the public meeting, and designates a contact at the NRC for more information. The notice of intent for this action was published in the Federal Register on March 14, 2000. A second notice was published in May, on May 1, 2000. In addition to this meeting, a public meeting was held in

~~Lyles~~Lisle, Illinois, on April 27; in Boston, Massachusetts on May 17th; and an additional meeting -- public meeting will be held in San Francisco on June 21st, next week.

Scoping meetings are used early in the NEPA process, to help the federal agencies decide what issues should be discussed in the environmental impact statement. It helps us define the proposed action and determine any peripheral issues that may be associated with the proposed action.

The next step ~~in~~ is the scoping process ~~if the scoping process~~. Scoping is used early on in the NEPA process to help federal agencies decide what issues should be discussed in the EIS or generic environmental impact statement. It helps us determine the proposed action. Scoping, also, help determine any peripheral issues that may be associated with the proposed action, determines any -- but are considered to be outside of the proposed action's realm. Scoping identifies other related actions, such as environmental assessment or environmental impact statements that are being performed by other federal or state agencies, or that may impact on the decommissioning activities, which then -- and then allows us to coordinate with other state or federal agencies early in the process. The public comments

on our -- this scoping process, we request that they be received July 15, 2000.

Once scoping is complete, we'll perform an evaluation of the environmental impact associated with the reactor decommissioning. The environmental evaluation will address the impacts of the proposed action, which is decommissioning in this part, in a generic manner, the impacts that may occur at all or most decommissioning plants. The alternative to the proposed action and the impacts that could result from those alternatives will, also, be evaluated. Finally, we'll look at the mitigating measures, those measures that can be taken to decrease the environmental impacts of the proposed action.

After the NRC has conducted the environmental evaluation, we'll issue a draft environmental impact statement for public comment. In this case, it will be a draft generic environmental impact statement and is scheduled to be published in early 2001. All federal agencies issue draft EISs for public comment. At that time, there will be more public meetings, to gather the comments on the draft environmental impact statement. After we gather the comments and evaluate them, we will issue a final EIS, which will be scheduled to be published in late 2001.

The NRC has previously published other environmental impact statements that are related to, or have an impact on other aspects of the decommissioning process. We will look at the contents of these EISs, as part of the decision regarding the scoping of the decommissioning GEIS. If impacts are considered in any other -- in a previously published generic environmental impact statement, they will likely not be reconsidered in the decommissioning generic environmental impact statement.

A generic environmental impact statement completed in July of 1997 looked at the radiological criteria that we used in the rulemaking for the very small amount of radioactive material that can be on site when the license is terminated. As a result of this GEIS, the criteria of 25 millirem per year total effective dose equivalent was adopted. This GEIS provides the basis for what the impacts on the public are after the license had been terminated. A final generic environmental impact statement was completed in 1982, to look at the impacts of low-level radioactive waste in licensed disposal sites. The impact of the waste that came from the decommissioning plants was, also, considered in this final generic environmental impact statement. Finally, a draft EIS has been written on the

geological repository for spent nuclear fuel at Yucca Mountain in Nevada. We highlight these environmental impact statements, because these areas will not be covered in the decommissioning GEIS, since they were covered in other environmental impact statements.

That concludes my portion of the presentation and if you have any questions --

MR. CAMERON: Thanks a lot, Dino. For the benefit of those of you, who just joined us recently, we're going to have two presentations: one by Dino Scaletti, NRC staff, on the environmental impact statement process, generally and specifically for this reactor decommissioning; and then we're going to have question/answer discussion on that; and then we're going to go to Becky Harty, from Pacific Northwest Lab, who is going to talk about decommissioning, specifically, and what types of environmental impacts we think might result from that. So, we're going to keep it informal. We have a lot of time and opportunity to talk. So, if there are questions for Dino, at this point, or we have an open discussion period later, we can come back to that.

But, any questions? There's a lot of pressure on you. But, anything? Paul? No? Catherine? Glenn, you

probably want to come up to speed a little bit.

MS. CARROLL: Yeah, I have a question.

MR. CAMERON: You do have a question?

MS. CARROLL: Yeah, I have a question.

MR. CAMERON: All right, good.

MS. CARROLL: I mean, there might be a tidy place to say it, but --

MR. CAMERON: Okay. We'll listen, and Glenn can -- we are keeping a transcript, so just give your name and affiliation, if you want, for the record.

MS. CARROLL: My name is Glenn Carroll. I'm with the -- Against Nuclear Energy. I understand about a generic environmental impact statement. We have public participation on this end. But, is my understanding correct that if a generic environmental impact statement is adopted, that it would not include public participation at the actual time of decommissioning? Is that so?

MR. CAMERON: Dino, I think you can get the gist of Glenn's question, but I guess it goes to what happens during the decommissioning of a specific plant, in terms of public participation, at least that's one part of it. Dino?

MR. SCALETTI: From the standpoint of this generic environmental impact statement, as you said, there's public

participation. You'll have an opportunity to comment on the draft environmental impact statement when it comes out. We have the opportunity now to include comments that you want us to address.

At the time of -- now, when this document is complete and the licensee decides to terminate -- to shut down his facility, there is, again, a public meeting on the post-shutdown decommissioning activities report, which, at that time, is part of that post-shutdown decommissioning activities report. The licensee has to address the impacts that the facility would undergo and compare them to the existing final environmental impact statement for operation, as well as the generic environmental impact statement, which would be this -- which would complete it, this supplement, and so there's another public meeting at that time.

Now, when license termination come into play, there will be -- license termination is considered a major federal action and there will be an opportunity, at that time, to be involved in the license termination plan for the license to terminate.

MR. CAMERON: We are -- I think that Becky is going to go a little bit more into this in her presentation, but if you have a follow up or anything you want to ask, at

this point, based on Dino's answer.

MS. CARROLL: A public meeting wouldn't have any legal binding. It would be like going through --

MR. SCALETTI: Certainly.

MS. CARROLL: -- the specific concerns, but I don't think they will be bound. And is decommissioning, the license termination -- my understanding is that there's no open intervention, at that point. So, is there any legal resource left in the public, at that point, if you take this route?

MR. LEWIS: Okay. Steve Lewis from the Office of General Counsel. I think your question, Ms. Carroll, was both with respect to decommissioning and license termination, if I understood it correctly. So, at the commencement of decommissioning, the process is a -- I'll call it a non-legal process, for lack of a better term. It doesn't have -- it doesn't involve any formal action. It does not involve an amendment or any other action of that type by the NRC. However, we will review the basis for the documentation and the claims made by the licensee, that the environmental impacts of its decommissioning activities that it is proposing to do fall within previously reviewed environmental impacts, whether in some generic environmental

impact statement or in a site-specific environmental impact statement that was prepared for the facility, in many cases, quite some number of years ago.

The way the regulation is written in 50.82, if, in fact, the impacts of the site-specific decommissioning fell outside of previously analyzed environmental impacts, then there would have to be an amendment. So, you know, at that stage, there will be a review and the way in which the NRC will perform its duties, in that regard, is principally through inspections and a review of the documents. And, you know, if we have a problem with the PSDAR, we will make that problem known in writing to the licensee.

Now, at license termination, that is an amendment; so, therefore, the --

MR. CAMERON: Steve, can I just -- you raised the term "amendment" twice and this time you're using it in the sense of an amendment to a license?

MR. LEWIS: Yes.

MR. CAMERON: And when you used it previously, you were talking about an amendment to the environmental -- a supplement to the environmental impact statement?

MR. LEWIS: No, no. I was using it --

MR. CAMERON: You were using it to the license --

MR. LEWIS: I was using it as an amendment --

MR. CARROLL: A license amendment --

MR. LEWIS: A license --

MS. CARROLL: -- is an intervenable juncture.

MR. LEWIS: That is correct. Certainly the way 50.82 is structured, there could be a requirement for a licensee to get a license amendment before proceeding with decommissioning, if it was proposing a form of decommissioning or to proceed in some manner that had simply not been previously reviewed from the environmental perspective. Now, at the time of approval of the license termination plan, allowing the licensee to proceed with all of the steps necessary to terminate its license, that is identified specifically in 50.82 as a federal action and requires -- a major federal action requires an amendment to that license, with all the attendant rights involved.

MR. CAMERON: We're going -- I think there will be more opportunity to explore this in detail when we get there. But, are there any other -- Cass, do you have anything to say, at this point?

MS. MITCHELL: My name is Catherine Mitchell and I'm with the Blueridge Environmental Defense League. I would just like to say that the fact that I'm not

participating in questions here doesn't mean that our organization doesn't have plenty of concerns, but I'm here to read a statement. This is not particularly my area of expertise, but our director could not be here at the last minute and so I would prefer to address our concerns in the statement.

MR. CAMERON: Great; that's fine. Do you have -- do you want to -- do you have other questions on the EIS process, at this point, or do you want to wait? Okay.

Let's move on. Thank you, Dino. And Becky, would you like to talk about decommissioning for us? Becky Harty.

MS. HARTY: Thank you. Good evening. I'm the project manager for the Pacific Northwest National Laboratory's multidisciplinary team that's supporting the NRC on the development of the supplement to the generic environmental impact statement for decommissioning. And for the next few minutes, I'd like to discuss decommissioning and I'll give you some background information, discuss the process of decommissioning, the NRC's regulations on decommissioning, methods of decommissioning, activities that occur during decommissioning, and the environmental impacts that are historically considered in EISs.

First of all, I'd like to provide you with the

definition of decommissioning, as described in the NRC regulations, and that's the process of safely removing a facility from service, followed by reducing residual radioactivity to a level that permits termination of the NRC license.

Next view graph. The regulations that were in place at the time of the 1988 generic environmental impact statement on decommissioning, the time that it was developed, required that at the end of the life cycle, licensees of nuclear power plants would submit a decommissioning plan. By the 1990s -- mid 1990s, the NRC reassessed the value of the detailed decommissioning plan and decided to change the regulations to no longer require this detailed plan at the start of decommissioning. The reason for this was that it was acknowledged that decommissioning activities could be accomplished in much the same way that similar pipe or pump removals or decontamination processes occurred at operating facilities.

Commercial nuclear power plants have a set of technical specifications that make up their license. These technical specifications, along with the NRC's regulations, basically lay down the parameters of what the licensee can and cannot do at their facility, and these are the safety

checks and they extend into the decommissioning phase, although in a somewhat altered form, to reflect the specific safety issues that are important for decommissioning. If the licensee decides to step outside of the tech specs, there's a process for a license amendment that they must follow and that requires an NRC review, a detailed one.

That's not to say that the NRC doesn't provide overview related to the environmental impacts that may occur during the decommissioning phase. They do and they provide a considerable amount of inspection during the entire process, to insure that the regulations are being followed. But the major up-front type review efforts for environmental aspects of decommissioning occur at the two stages that are most critical: the start of decommissioning, where there are concerns related to the safe storage of the fuel and concerns that the licensee has appropriately thought through the decommissioning process; and then at the end of decommissioning, where there's concerns related to ensuring that the radiological hazard has been removed. And I'll talk about these two stages in the type of overview that the NRC has in the next few slides.

First, early in the process of decommissioning, the licensee is required to make two certifications. The

first certification is that operations have permanently ceased and that means that the licensee does not ever again plan to restart or turn on the reactor. And the second certification occurs after fuel has been removed from the reactor vessel. And after that one is made, the plant's license has changed, so that they are no longer allowed to load either old or new fuel into the reactor and to run it. The licensee must, also, submit a post-shutdown decommissioning activities report.

The PSDAR is a document that must be submitted by the licensee two years or within two years of the decision to permanently cease power operations. It contains a description of the planned decommissioning activities; a schedule for the accomplishment of the planned activities; an estimate of the expected costs, which is then compared against the amount of funds that the licensee has put away and saved in a special account for decommissioning; and it, also, includes a discussion of the environmental impacts. It specifically contains the reasons for concluding that the environmental impacts are bounded by previously issued environmental impact statement or by the generic environmental impact statement, if, indeed, they are. And Steve mentioned if they're not, that requires a license

amendment and an additional review.

As Dino mentioned previously, the generic environmental impact statement is going to be used by the NRC and the licensee through the entire decommissioning process, to ensure that the environmental impacts that may result during the decommissioning process have previously been considered. But a specific hard look at the decommissioning process is taken at the time that the PSDAR is developed and it's at this stage that the generic issues in the GEIS need to be revisited, to make sure that there is not any new or significant information or something that's specific to that plant that would invalidate the generic conclusions that are given in the GEIS.

The PSDAR is a summary document. The NRC does not require an extensive report of the analysis on the environmental impact statements in the PSDAR, but they -- the licensee are expected to have performed an extensive analysis and that information has to be available to NRC inspectors. And there's an inspection review procedure that's being developed, so that the inspectors -- right now, they think they know -- they know what they're looking for and they go out and look for it; but there's a specific review procedure that's being developed, so that it's down

on paper exactly what they need to check for.

Major decommissioning activities are prohibited from occurring until the PSDAR is submitted. It is, again, used to compare against the amount of money that the licensee has been required to save and it provides a mechanism to determine if adequate funding is available to complete the decommissioning process, as planned, or if the licensee needs to obtain some additional funding somewhere.

Now, following the submittal of the PSDAR, the licensee is able to begin major decommissioning activities, including either immediate decontamination or dismantlement or placing the facility into SAFSTOR, which I'll talk about in a few minutes. Then within two years of reaching the completion of decommissioning, the licensee must submit a license termination plan. The license termination plan includes a characterization of the site and the residual amounts of contamination and identification of any remaining dismantlement activities that the plant -- the facility plans to have done, plans for site remediation, detailed plans for final survey of residual contamination levels, a description of the end use of the site, an update of the site-specific cost estimate for those last two years, to make sure that there are adequate funds available, and,

also, a supplement to the environmental report.

This is a license amendment, as Steve explained earlier, and so the NRC reviews this and they, also, write an environmental impact statement. After NRC review and after the final survey for residual contamination on the site, if it reveals that the radiological hazard has been removed to acceptable levels within the NRC's regulation, then the license will be terminated and the site is no longer under NRC oversight.

Okay. Now, I'd like to quickly run through the general process and methods for decommissioning. This is what we have to look at in detail in the generic environmental impact statement, to ensure that we're assessing the appropriate environmental impacts. The NRC originally envisioned three different methods for decommissioning, which they called DECON, SAFSTOR, and ENTOMB, and these were discussed at length in the 1988 generic environmental impact statement. Now, as industry experience was gained, it became obvious that some plants were kind of using a combination of the DECON and SAFSTOR, and I'll elaborate a little bit on those options -- those three options.

ENTOMB is where the radioactive structure systems

and components are encased in a structurally long-lived materials, like concrete, and the ENTOMB structure is maintained and continued surveillance is carried out until the radioactivity in the facility decays to a level that permits termination of the license. The NRC regulations, as they're written, only allows a 60-year period of time for completing decommissioning and the 1988 GEIS concluded that that was not enough time for the ENTOMB process to take place, so that it was probably not a viable option for decommissioning at that time. They kind of left it open a little bit; it said that it was probably not viable. It's likely that it will be reconsidered and we're going to look at it in this GEIS, probably in several different forms.

Now, for DECON. Typical activities that are performed during DECON include decontamination, which is -- and it, also, includes the removal of contamination from system structures and the removal of large components. It, also, includes dismantlement, which is the removal of piping and other generally smaller components. And they, also, include the removal of buildings; although, in some cases, licensees are just decontaminating the buildings and the facilities and leaving the buildings there and reusing them for other energy production facilities. Transportation of

waste to a storage facility is, also, a very large activity that occurs during DECON. DECON can kind of be looked at as the get in there and get it done method of decommissioning.

Now, SAFSTOR -- the SAFSTOR method involves placing the facility in a safe and stable condition and maintaining it in that state until the facility is subsequently decontaminated and dismantled to levels that permit license termination. This process has the advantage that during the storage period, the radioactive materials in the facility are decaying, and so it basically reduces the amount of radioactive material that has to be cleaned up at a later date and it reduces the radiation dose to the workers and to the public. The NRC, however, because they have this limit of 60 years, in which you can have decommissioning, so there's actually a date. You can't put this in storage forever. You've got to finish the decommissioning in 60 years.

Typical activities that are performed during SAFSTOR are preparations for storage, such as deactivations of systems; and draining and flushing ~~part~~ systems; performing radiological assessments before you put the facility in storage, so that the amount and location of the radioactive material is known before it goes into storage.

And these activities, with the exception of the storage period, also, occur during DECON, but they just take on a greater importance during SAFSTOR, because you are getting ready to store the facility. And during storage, the licensee conducts preventative and corrective maintenance and maintains the structural integrity of the facility. Following SAFSTOR, the remainder of the decommissioning process looks a lot like DECON, with the remaining radioactive components and portions of the facility inside are decontaminated and are removed.

The combination that I talked about earlier, and a lot of facilities are doing this, they'll go into SAFSTOR and then they'll decide that they have workers and funds available and they can do small amounts of decontamination, so then they will do this during the SAFSTOR period. They notify the NRC that this is happening, so the NRC can provide the appropriate amount of review and inspection. That's one way SAFSTOR and DECON kind of get combined. Another way is that some facilities, when they're going into what they call DECON, which is immediate dismantlement -- decontamination and dismantlement, it may take a short period of time, either in the first few years or maybe after the first few years of decommissioning, to kind of review

and decide exactly what they're going to do and how they're going to do it and so they'll maybe put the facility in storage for three, four, five years.

Okay. At the very end of the process, the activities look the same no matter which option is chosen. The final part of the process if called license termination. During this time, the final decontamination and dismantlement processes, as defined in the license termination plan, will occur and the licensee will check all over the site, to make sure that they've removed the radioactive contamination, including any contaminated soil or dirt. The licensee develops a site-specific environmental report, which the NRC reviews, and develops an environmental impact statement, which looks at the final condition of a site.

The licensee will do a final radiation survey, using techniques and methods developed by the NRC, and the final site survey will be reviewed and verified by the NRC. In order for the license to be terminated, the NRC must be assured that the dose to the public is below specific criteria. This process was a subject of another GEIS that Dino referred to earlier and it's not really considered part of this process, although the NRC is always willing to

listen to comments or recommendations for improving that process.

Next slide. I want to tell you a little bit about the reactors that have decommissioned to date. There are 18 facilities that are in various stages of decommissioning and -- or 19 and two facilities that have completed decommissioning. Six facilities are currently undergoing decontamination and dismantlement; nine facilities are in long-term storage; and four are planning a combination of long-term storage and decontamination and dismantlement. Three facilities have already submitted their license termination plan.

To give you a look at the types of facilities that have been or are being decommissioned, eight of them are boiling water reactors. -- these are different types of nuclear reactors -- ten of them are pressurized water reactors, there's three others, and they range in size between 23 megawatts thermal, which is pretty small, up to 3,411 megawatts thermal, which is a very good size facility.

Now, the two facilities that have completed decommissioning and no longer have an NRC license are Ft. ~~Sanguine~~ Saint Vrain in Colorado, which is a high temperature gas cooled reactor, and Shoreham, which is in

New York, which was a large boiling water reactor, but it only operated for one power -- effective power day. So, the facility did not have some of the problems or concerns that some of the facilities that have operated for a couple of decades do. These facilities have had their licenses terminated, because they've successfully removed all the radiological hazards from their site.

Now, what I want to do is show you the list of environmental impacts that we're considering. In part, this is because of the amount of decommissioning experience that has occurred in the last 12 years. At this time, looking at the development of a revision to the GEIS, as Dino has mentioned, and taking another hard look at the process and at the environmental impacts, and the areas that we're currently considering include those that are typically evaluated by the NEPA process for other nuclear facilities, for other licensing type actions, and they include land use; water use and water quality; air quality; ecology, which is both aquatic and terrestrial ecology and includes endangered species; radiological impacts, both to the workers and to the public; postulated accidents to the public; transportation impacts; cost of decommissioning; socioeconomic impacts, for example, the loss of a tax base

for the community, if the plant is no longer running; environmental justice, which is unfair impact on minority or low-income populations; cultural impacts, such as historical preservation or ecologically impacts; and noise.

The GEIS will look at impacts and consider the type of reactor, if it's a ~~broad~~ pressurized water reactor, BWR, or another type of reactor; the methods that will be used during decommissioning, for instance, SAFSTOR, DECON, ENTOMB, or combinations; and the activities that will be performed during decommissioning and their timing during the process. And, also, the location of the facility plays a fairly important part, whether it's located on the sea coast or in the desert, wherever.

One of the things we're hoping to get tonight is that there are people, who know other environmental impact areas that we haven't considered, we want to know those, or if there are certain aspects of some of these areas that somebody thinks is very important, that we need to address or look at in detail. That's some of the information we're really hoping to gather.

Public participation is the key to the NEPA process. We're looking for comments from you today and, as Dino said, the NEPA process provides a number of

opportunities for the public to participate in the development of the GEIS. We can receive comments at this meeting, either oral or written comments. Written comments will be accepted by the NRC until July 15th. Comments can be provided by mail or in person or e-mailed, and the e-mail address is shown on this slide. And I think there's, also, a point of contact sheet that ~~Itoy~~ETOY has out on the tables out there, so if anybody wants to grab that as they leave. In addition, we have a number of documents that are in the hall, that are available for examination or smaller handouts that you can take with you, that discuss decommissioning or different aspects of decommissioning.

We want your participation. We encourage your participation and it makes it a better process, if you do participate. And I'd like to thank you for your attention, and if there's any questions on this presentation or anything that I can clarify for you, regarding what I've said?

MR. CAMERON: Thank you, very much, Becky. Let's go on for questions and see if anybody has any suggestions, in terms of the --

MS. HARTY: In fact, we may want to leave that there. Let's do that.

MR. CAMERON: Yeah, can we do that? That's a good idea. The types of impacts, the extent of impacts -- Dino, at one point, talked about new technology for decommissioning. If anybody has any comments on those new types of technologies -- and I guess there's rubblization. That's a new type of decommissioning technology, so that's an example of that.

Are there any questions, comments out here? And then I want to have them clarify a couple of things on some past slides that were tied to some questions before.

SPEAKER: Well, I'd like to hear you describe entombment like you did SAFSTOR and DECON --

MS. HARTY: Oh, okay.

SPEAKER: -- just so we can have all three of them out there.

MS. HARTY: Oh, okay. I'm sorry, I didn't clarify that enough. Entombment is where -- in the 1988 GEIS -- I'm going to back up, in the 1988 GEIS, it was looked at as encasing the structure -- all of the structure systems and components, basically encasing them in concrete and leaving them on site until the radioactive material had decayed to a point that you could just say there's no more radioactive material here and the site is now able to have their license

terminated.

Now, there's -- since the time of the 1988 GEIS, there's been some more discussion about entombment and actually Carl Feldman is kind of our expert here, so I may turn it over to him. They talked about instead of doing a clear cut, just fill the whole thing up with concrete and leave it there, maybe removing certain large components, like the reactor vessel, the steam generators, things that are highly radioactive, and then maybe filling in the rest of it. So, it's kind of a combined DECON/entombment, rather than being a specific entombment. Am I answering that correctly?

MR. FELDMAN: Yeah. Let me address it a little bit, because I've been very involved in it.

MS. HARTY: Carl, say your name.

MR. FELDMAN: Carl Feldman, NRC. I've been very involved in the entombment critique, because the Commission asked us to see if entombment is a valid process and if it is not, what we could do to make it valid and the reason this is coming up is because of the whole problem of waste disposal. When we did the early GEIS back in '88, and, actually, that information, they started in maybe '76, and by '81, it was finished. Our last report came out then, but

then we had a lot of trouble getting the rest of it out. But, we didn't update the information base very much. We updated inflation, things like that, but not the technology.

At that time, when -- back in, say, around 1980, we didn't anticipate big problems with waste disposal. When you go do a decommissioning, the major concern is the occupational worker. And by doing it properly, you would keep that pretty low. But, once you did a dismantlement, you're done. When you go to entombment, then you have potential for public dose. And the reasoning was, well, if there's some cost benefit that is of a significant health and safety concern, then maybe there's a reason to do entombment. So, we didn't want to preclude it entirely.

[Inaudible] -- years really came about, because we said why -- instead of making people tell us all these different cost benefits, it gets very confusing, we want to have some kind of a standard out there. And at that time, the studies that, also, were done by PNNL, but at that time called PNL, were -- show that if you had primarily cobalt contamination, which is a dominant contaminant -- you, also, have cesium, which is a longer-lived contamination -- we're assuming, in the best of circumstances, you'd only have primarily cobalt, and then if you looked at what the major

significant aspects, in terms of mitigation were, if you waited 30 years, the dose to the occupational workers went down to about a third of what it was, if you did it right away, currently. But, then it sort of plateaued and after that, sure, it went down very, very slowly. And if you waited about 50 years, the volume of waste went down to about a factor of 10 and then it just went down very slowly after that.

So, we said, okay, well, we can wait 50 years and we'll give you about 10 years to finish the decommissioning. That's termination of license. That's where the 60 years came from. We didn't really give much weight to entombment, because -- and we didn't give it all that much analysis, because, at that time, it just didn't seem like a reasonable way to go. But, we didn't preclude it, because we said if there was a significant health and safety concern, the Commission could make a case specific recommendation to allow it. And so that's where it went.

But, again, we didn't do a real thorough analysis. And since that time, we have had PNNL take a look at the ability to entomb something. We're only talking about power reactors, because they're generic and they have certain properties that make them nicer to entomb. And so, we had

--

SPEAKER: All plants or --

MR. FELDMAN: Well, no, no, with the fuels taken out. There's no fuel. You're only talking about radioactivity. It's like a material facility. All of the fuel is taken out.

MS. HARTY: Did you ask about bomb plants?

SPEAKER: You said it was nicer than --

MR. FELDMAN: No, no. I'm thinking --

SPEAKER: You said it was nicer than, and I didn't understand why.

MR. FELDMAN: Oh, oh, because of the structure.

MS. HARTY: Yeah, but these --

SPEAKER: Those are nicer than --

MS. HARTY: Like test reactors. Well, I think he's talking about fuel enrichment plants or --

MR. FELDMAN: Yeah.

SPEAKER: Okay.

MS. HARTY: These are all commercial plants. The production facilities --

MR. CAMERON: You guys are making a great trio, but if you could just do one at a time.

MR. FELDMAN: Let me respond to that. What I was

talking about is if you look at how you want to isolate something, if you want to encase a radioactivity of some sort. Now, I'm not talking about spent fuel or any kind of reactive process where neutrons are coming out. That's where the bomb type of problems come about. We're not talking about that. The spent fuel is removed. That's a given. That's always assumed. Even in the '96 rule, one of the critical safety features is that if you take the spent fuel and take it out of the reactor containment vessel and put it in the pool or someplace else, because that's where the nuclear energy -- the predominant nuclear energy affects come from, the heat and all of the significant radiation.

Once you take that out, yes, you have radioactivity, but you don't have an explosive type of situation. You just have -- it's no different than a non-reactive type plant that has contamination -- radioactive contamination, like material facilities. The difference, though, is that it's very well defined, because it's not a chemical plant and the radiation is well known where it is. The other thing is that you have a very strong containment system built into it, because that was the initial design for operations, and then some of the materials are steels of one sort of another, that have

activation of a radioactivity part of the steel.

And so you have to look at all those features and when you do, you can provide a reasonable justification that you could accurately isolate that stuff. Remember that we said it depends what type of entombment you're talking about. You could leave a lot of material. You could take -- from the beginning of the rulemaking, we always envisioned mixtures. It didn't have to be all safe storage or dismantlement. It could be any combination, the end result being termination of that license. So, you could have a little bit of safe storage, then you could entombment, you could dismantle some, and do various things. So, you could take some of that radioactivity out offsite and entombment, you could leave more in. It would depend on the circumstances and the ability to demonstrate, in a meaningful way, that you could isolate that system for the amount of time required, for the amount of radioactivity locked in it to decay to a level that it could be release at, in some time. That's the whole idea of entombment.

MR. CAMERON: And Carl, just to make sure that it's clear to everybody out here, why are we taking -- what circumstances have changed that leads us to look more favorably on entombment?

MR. FELDMAN: Two circumstances: one is that we have done additional analysis of the ability to entomb for power reactors, to ensure that we could adequately isolate that radioactivity, so it wouldn't be a problem; and the -- of course, the waste disposal has -- or the ability to dispose of waste has gotten more difficult. And the industry has asked for options. Rubblization is one of those options. Entombment is another type of option. And so if it is not a health and safety problem, our mandate is health and safety, if there are ways to do things that are not health and safety problems, that are cheaper for industry or for business decisions to be made, then we let them do them. The only question is: is this a safe method. And that's why we're looking at it now.

MR. CAMERON: Okay. Thank you. Is it -- you mentioned rubblization a couple of times. Is that -- is it clear to see -- to hear what that alternative is composed of, rubblization? Any questions on that? And further questions on the issue of what types of -- are there other types of impacts? Are there any of these impacts, where we should pay special attention to new information in preparing this EIS?

SPEAKER: Chip, I think there is something that

Carl said that -- something I want to talk about tonight, which is the change in expectation of disposing of waste, and you have a better overage of the evening, so is there a time when, you know, you'll be delving into that a little bit? Will it fit into other --

MR. CAMERON: Yeah. Let me see if anybody else has any questions now. Sir, do you have any questions or comments on this talk?

MR. MINNS: Well, we might as well get it out.

MR. CAMERON: All right, and put yourself on the record, John.

MR. MINNS: My name is John Minns from NRC. Becky, I would like to ask you a question about what is this green field? I get a lot of calls from people who want an explanation about the green field impact, and many people are concerned that after the land is decommissioned, they want their land back as green and they want to be able to farm. Will this be covered in the GEIS?

MS. HARTY: I think that's a very important area that needs to be discussed in that GEIS, Greenfield is--my understanding is, and I'm not sure if the NRC has a specific definition of it, but my understanding is Greenfield is just taking the plant site back to what it had been before the

plant was built. Or, in some cases, people -- like is an option like putting a farm on there, or maybe a park, of just pasture, or a lot of the places where forested, and they may not be taking it back exactly to that type of forest; but just to a green state.

There's also industrial uses of decommissioning sites. That's not specifically considered to be greenfield. Some people actually call that brown field, because it's taken to a non-nuclear industrial site. Does that answer your question? Okay.

SPEAKER: Let me just state something as--so that the NRC can clarify this. In terms of greenfields, there's no requirement now, by the NRC, that a utility take a site to greenfield. But if a utility wanting to do that, that would be within their discretion. And I'm asking sort of the question for you guys.

SPEAKER: Yeah, that's correct. When we first did the decommissioning activities way back, we brought those questions up. And it was--I guess we had scoping meetings just like we're having now et cetera. And it was pretty well decided at that time that the NRC's responsibility lies in owning the radioactivity constituents of the facility. If those are removed to a level that's acceptable, then the

rest of the structure can stay there. So if we had some--see, we have a license termination rule now, for instance. There's 25 millirem allowed. If they satisfy that condition, and the building's still there, then the building stays. Usually, the building would be there. The--so we don't require a greenfield, but the greenfield concept just came about, just as Becky was kind of saying, you start with it--initially before you had a reactor there, you just had greenfield. And you want to bring it back to a state that was similar to what is was prior to putting a reactor there. So that's how that whole concept came about.

MS. HARTY: I think, ~~Kevin~~--can I add something on that, too? The decision to do that primarily rests with the utility. Sometimes we've seen in some cases where the state puts pressure on the utility to chose one option versus another. And it may have to do with the perception of just totally getting rid of the--any aura of nuclear facility or it may be that they want to be able to use that site for other energy production units. Right now--I'm trying to think, but I know Big Rock Point has said that they're going to a greenfield. Trojan said they're planning to use it for industrial site. Fort St. Vrain left it as an industrial site. They're one of the ones that are decommissioned.

SPEAKER: Decommissioned. For people's information, the location of those facilities?

MS. HARTY: Trojan is in Oregon. And Fort St. Vrain is in Colorado. And Big Rock Point is in Michigan, right?

SPEAKER: Right.

MR. CAMERON: Okay, and I just--Dino, wants to say something about this definition.

MR. SCARLETTI: It's already been said, so that you'll be going to decommission this and ~~literally~~ remove the radioactive components. But where they are building an ISFSI, ~~we--~~the structure is important ~~probably to do so~~ to the safe storage of spent fuel.~~ You know, if you're that concerned. I mean,~~ Maybe it can be the switch yard remaining on site ~~understanding~~. Designing the switch as staying, so these sites~~--if you're getting into~~ cannot attain greenfield ~~is not~~--you know~~, it's part of these, not some group with the structure~~. It's not a greenfield site ~~part~~ again, also the site may be re-powered ~~receiving power~~. So there's--all those things needs to be considered in the utility's use of the site.

MR. CAMERON: We're going to--we'll come back to John. Could you just, for those of us who are sort ignorant

about this, just tell us what the switch yard is. I think we know, but--

MR. SCARLETTI: The switch yard--it has to do with electricity. The energy comes from the plant between the switch yard and this switch yard is tied to the incoming power lines, and it's the reason they're being left there. These--for instance, ~~another one~~ Zion Nuclear Power Station is using its generators ~~that save those~~ as synchronous capacitors ~~to--so they help save life, and yet produces lack of power~~ which helps stabilize the grid in the generating area of that plant. And so, there's going to be an ~~incentive~~ in service until 2004~~ to view it as there is time, and then I hold you until you get out of the power production field. Although in most places this was--~~

MR. CAMERON: Thank you, Dino. Let's go back to John, and then we'll come back up here to see if there's other questions. John, any further comment?

MR. MINNS: I have one more comment. You know the state of ~~being and~~ Maine elected to vote for a 10 millirem/year limits. This is lower than the EPA and NRC limits and it may be difficult to decommissioned the Maine Yankee Facility at this lower level limits. ~~And it's going to be difficult to decommission numbers of that low level.~~

~~So that's a problem. The level of--~~

MR. CAMERON: Well, I guess that is in reference to--

SPEAKER: Is that a problem?

MR. CAMERON: Yeah, I think--it did represent--

SPEAKER: Before I Say?

SPEAKER: I can take it.

MR. MINNS: NRC, I'm a ~~production~~ project manager. I work with the NRC.

MR. CAMERON: Okay. I think was responding to your statement about what states might want the utility to do over and above NRC regulations, and I think John was just pointing out that, in some cases, the state is requiring clean up of the site to a very, very low normal, and I think as our counsel would tell us, it's still an unresolved issue perhaps. And it might be worth saying something about this--is that what can the state require in terms of regulation clean up over and above the NRC requirements? Do you want to try? This is a real thorny issue that I think it would be worth talking about. So, Steve, could you try and explain that, and we'll go out to people and see if there's any questions on it? Alright.

MR. LEWIS: Alright. Thank you, Chip. Basically,

there are a number of outstanding issues that have to do with the levels at which a site will be considered to be acceptable for release. The NRC issued its rule in 1997, and used a performance-based rule based on 25 millirems to the average person in the critical group, the group that we felt would be most likely to be impacted by the remaining residual radioactivity at the site. And that was considered to be a total effective dose equivalent, from all pathways.

The EPA, the United States Environmental Protection Agency, has an alternative construct, which I believe is 15 millirem total body, and 4 millirem from ground water. Whereas, the NRC had 25 millirem was from all source combined. So there is some degree of fluidity right now in terms of the legal picture. In addition to that, then you also have an intense and very understandable interest by states in sites that will, in essence, be released; that will, in fact, be released by the NRC from license.

And certainly states have indicated strongly to the NRC that they should have a significant role in being able to--in being able to require something more extensive to be done on the basis that once it's done, there's--it's no longer going to be under license by the NRC, and

therefore, states will probably play a significant role on behalf of the public in, you know, living with the consequences and the presence of that site.

So, I think that's why Chip was indicating that it's, you know, it has some complexities to it. I think that the complexities are related to the fact that these various entities, both--I've identified two federal agencies, plus you've got the states as they may become involved depending upon where plants are proposed to be decommissioned. And you know these kinds of things will have to be worked out among the various governmental entities. And it is true that the NRC has already take a position as to what it considers to be a level that constitutes an acceptable level for terminating the license. And we also require in that same regulation that the licensees comply with the principle of achieving levels as low as reasonably achievable, ALARA.

So the NRC might be in a position where it is of the view that a license can be terminated and might then do so. A state may decide to ask that licensee, that entity, along with the NRC's licensee, to decontaminate the facility further, and that may very well be what would happen.

MR. CAMERON: I'm not sure that everybody

understands what the status quo is hearing. That's a very good explanation, and also we'd like to--we get Paul from the EPA an opportunity, if he wants, to say anything about the difference in outlook as we--the two agencies, and also give people a chance to ask more questions. But in terms of the NRC view vis a vis the EPA it is that under our rules a licensee, to terminate the license, has to meet our rules.

MR. LEWIS: Correct.

MR. CAMERON: And we would terminate the license.

MR. LEWIS: Right.

MR. CAMERON: Now, in terms of the state, some states have a question, can they require the licensee to clean up to lower levels?

MR. LEWIS: Right. Right.

MR. CAMERON: Has the NRC--has the NRC made any statement on--and I don't want you to speculate about what we would say--but has the NRC made any statement on that or are we really waiting to be hear what they're saying?

MR. LEWIS: This--this--I don't have the answer to the question. I think that someone else here may. I think that this gets up to the--this gets to the question of whether or not it is an area of so-called Federal preemption--whether or not once we have determined what the

standard of acceptability is, does that preclude a state from making a determination that they believe something further can be required.

Let me go a bit further than that, however, as much as I feel I have enough knowledge to give you right now, which is that since we're talking here--right now, when we talk about 25 millirem, and we talk about--we're talking about license termination. So, I mean, at that stage, the NRC steps aside as the player, as the regulator. So, I mean, one would have to concede, it seems to me, that a state can then step in as the regulator if it chooses to do so, if it feels that there is something further that needs to be done to protect its citizens. And I think that the NRC recognizes that there is some--you know, there's a tremendous amount of legitimacy to that position.

I really can't say anything more specific, because I don't know the answer.

MR. CAMERON: Okay. Before we see if Carl has something, and go over here. Do you want to hear anything at this point on that issue.

SPEAKER: Well, I just maybe it's been clarified, but first, Maine Yankee, is requesting right now all these new regulations, state law says that up to--you can have up

to few more--even if the state is not in total agreement that this is better, because you're going to run into if you're taking the level of the site to the point of shipments of waste, appearance is a lot more silent, where there are accidents that could be involved with that. So, you have to address this better, either to control the people even in view that there are regulations at 25 millirem, and that's what we were worrying about. The same licensee is now demanding his bill, with his foot in the name of--and so that does not necessarily mean that the NRC is not really going to those levels. Twenty-five millirem is not our regulations.

MR. CAMERON: Okay, Paul, did you want to say anything all about when this--

REPORTER: And could you--get to state your full name and affiliation for the record, please?

MR. WAGNER: My name is Paul Wagner, and I'm with the Environmental Protection Agency. I think Steve did a good job of describing the interaction, with one small clarification, I guess, is that EPA's criteria for clean up, in many cases, depends on the specific clean up site, would come up to about 15 millirem per year, and ~~a month~~ some of that 15 millirem, is the 4 millirem groundwater pathway. So

it's at the minor function. Usually, you get lost in the grass in that.

MR. CAMERON: Okay. One major point that--yeah, right. It's 25 millirems and ALARA. One major point is that the EPA--I don't want anybody to get the impression that the EPA has a rule, okay, that requires 15 millirem, 4 millirem ground water. It's the EPA--although EPA has the authority to do a rule like that, and then the NRC would have to make their regulations consistent. The EPA has not promulgated a rule, so the basic--the field is being occupied like there is the 25 NRC regulations. Is that correct, Paul?

MR. WAGNER: The NRC has a federal rule that the license termination is through them.

MR. CAMERON: Now, let's go over here, and, Glen, there may be some questions that you guys want to follow up on this, or you have a question from before. Let's see if we can put this issue, 25, 15, whatever, the EPA, NRC, and states, and let's see if we can put that to rest at this point. Are there any--

MS. CARROLL: Because they're opponents of the NRC regulation, and, as you well know, the environmental community participates strenuously in that. And that

experience makes me kind of to this feeling like we're being railroaded; that the environmental GERS has a report on pollution, where a basic comment of it had is it should be site-specific. And the fact that our leaders and regulators, our operators embrace the general environmental impact statement is chilling.

MR. CAMERON: Yeah, and I didn't mean to put it. I didn't mean to put it rest. I just meant in terms of getting all the discussion out at this meeting on it. But could you amplify on--I think you raised an important point. Can you amplify, if you wish to, on why there shouldn't be any generic environmental impact statement, or why it should all be done site-specific?

MS. CARROLL: Well, just let me ask a question is that in the realm of possibility is that we would--NRC and all the energy that's brought you here today could actually change directions. It's not even possible for our view, by golly, with or without it, this issue is--this rule.

MR. LEWIS: The answer to your question, is it possible? The answer is yes, it is possible. And I'm not trying to be facetious. I mean, I'm not trying to say, you know, like anything is possible. I think fundamentally, at this stage of the process, we are truly trying to hear what

people are saying to us. The--I think we have to indicate to you that we're not revisiting at this time the 25 millirem standard that we established in 1997. That was a position that the Commission came to, and promulgated its regulation. And the EPA has not chosen to put into place an alternative regulation, although they do have some different positions than us.

So, I mean, I did hear very clearly what you said about that, and I understand that you do not, you know, feel that that is an appropriate standard. But I certainly don't want to mislead you into thinking that this GEIS is going to be the vehicle for the Commission readdressing the determination it made in 1997 as to the level at which it is appropriate to release a site from NRC regulation.

MS. CARROLL: I'm not really speaking to that, but just citing that we participated in that process, which was a new approach that the NRC developed as the--actually, the outcome isn't 25 millirem. It's 25 millirem, or ALARA, up to 500 millirem, and we're appalled. I think one of the turn offs with that is this disconnect with the sites--

MR. FELDMAN: That's--the 500 millirem is a different set of standards; that the unrestricted release standard is 25 millirem with ALARA consideration. In other

words, they have to take into account as low as is reasonably conceivable.

MR. LEWIS: Achievable.

MR. FELDMAN: Achievable.

MS. CARROLL: I know it's--I see regulators and other types as being--we're simply because we're going to do as low as reasonably achievable, but we're--a utility, we consider a cost. Future generations would consider their health, and there's a disconnect there, but knowing what is reasonably achievable is a license to pollute, to say it's not reasonable to try harder. I make have to make the fourth reason at this level.

MR. FELDMAN: It's a question of approach. I don't think there's that much of a difference between--I'm sorry. I don't think there's that much of a difference between the EPA and NRC numbers in actuality. It's just that they have a tendency to go to a low number, and then make exceptions. Whereas, we pick a high number as a generic number, and then we go to lower numbers. So somewhere, we meet. It's not that--they have different approaches to how they do regulation than we do. But the numbers, when you actually come down to concentrations, radiation-types of numbers, will be back to similar.

MR. CAMERON: This is--obviously, the clean up standard--

MR. FELDMAN: Yeah.

MR. CAMERON: Is a very important issue, okay. And I think we could--we should obviously stay here and talk about that for a long time. But, and we can do that, but I think that would--we'll need to take care of this environmental impact issue, and that's why if you do have any specifics in terms of not just do this site-specific, if you could, you know, offer those to us, that would be helpful. And whether it's possible that the generic environmental impact statement would not be done is--I don't know what would happen, but we need to--we need to hear people's suggestions on this, and why they think that it should be mainly site-specific, because it may influence, even if there is a generic environmental impact statement, it may influence what comes out of there and how it's used.

MS. CARROLL: Well, first of all, I'd like to say I think we're grappling with really--going where no man has ever gone before. And I think, we're great. We're trying to think about things this way, you know, this giant.

It occurs to me that maybe the best thing to do is decide the track you're on, and I wondered if you couldn't

produce a generic environmental reg guide or something, which at least gives the utility a really comprehensive list of criteria they would be held to, and that will be analyzed by the NRC.

But it's my sense that we may have specific types of reactors, you may have the P-types that react through--ultimately they've had a life of 25 to 40 years, and they've had--they're on different geologies. They're in different communities. And they have different operating experiences, and there will not be the same as the condition they were in. And to the land and the economy that has to be okay for comfort afterwards. So--I take as a given that each site is unique. Each community is unique. It's just not possible for me to think that, except for, you know, very comprehensive lists of things worth looking at with the NRC's disclaimer on that, then we ware entitle to bring up other issues that we perceive are important.

One of the projects that came--that we participated in following radiological criteria rulemaking was--and for the site-specific advisory board--and one of the disconnects here is you can--maybe it's not so a decontaminated reactor site, but in the meantime, you are contaminating a dump site. So, for real people, this is all

of the issue. The utility they're off the buck. The NRC transfers that over to the health department, and they're losing those folks--you know the contamination still exists.

We're having problems hiding these dumps. I don't think anybody in this room when Yankee was at the pole, they sent those generators to Barnwell, and that was a lot of radiation. Why no penalty--their millirem, but let's--

So, one thing about that issue, fearing to note these rules, to make a utilities rule and to conduct audits and the reactors and the contamination is the issue in the world. But the lack of dumps does sort of lead to the entombment issue. The thing that gets interesting about the entombment issue, the thorny part of it, is that 300-year marker, because that just defies any experience in having one of its states with any institution permanently that has lasted that long. So I can see why that is hard for a bureaucracy to say, now, there's a good idea. That's what we'll do. And yet, I feel entombment could be considered a viable option. It may be necessary to keep ~~Scott Buehl~~ spent fuel on this ~~late~~ site.

Now, that brings me to this idea that the states would ever really exercise any authority over this. You've got Nevada kicking and screaming about one nuclear dump, and

they're dying on the vine. And you've got Utah, kicking and screaming that they don't want to host the dump. These are NRC issues. DoE is in the mix in one case. And so it is not apparent from operating experience that the states do have the power to call shots in this arena.

So, that certainly does a lot to be soft on the--give them regulatory authorities, and try to put the states and--

MR. CAMERON: You may want to say something. Let me just get a couple of points on the record here. I think that Becky wanted to ask a question or respond to your point on you seem to be questioning whether it--how can we even produce the methodology to produce a generic environmental impact statement that is going--can bound all of these conditions that individual sites. I would like to ask Becky. I think you had a comment on that. And someone may also want to just clarify whether it was Maine Yankee or another plant that sent the reactor.

MS. CARROLL: Yankee Row.

MR. CAMERON: Yankee Row. Okay. I wanted to get that record so no one had the mistaken impression. But, Becky, go ahead. What did--do you have something else to add?

MS. HARTY: Glenn, that was a really good comment, and a really good question about the generic environmental impact statement, and why they can't be site-specific.

When we--we've been kind of working on this project since last fall, and one of the first things we had to do was, of course, put together a proposal. So we knew how much to charge the NRC for our work. And one of the things we looked at is exactly how would we lay out a generic environmental impact statement, because, you're right: there are reactors in totally different ecosystems all across the country. You got Palo Verde in a desert. You've got Turkey Point and Crystal River, they're right on the ocean. Maine Yankee is on an estuary, I mean, it just kind of runs the gamut. And not only that, you've got several different, like I said, different types of facilities--pressurized water reactors, boiling water reactors. Some of them are closer in to urban areas. Some of them are out in the country, totally out in the boonies. And when we looked at that, one of the first things we did was we said, you know, okay, we're going to have to form up a matrix here. So we not only look at the environmental impacts, we look at the different activities that would occur during the different methods of decommissioning. We

look at the different locations of the facilities; the different types of facilities. The fact that some of the methods may require a long safe-store period, and then you have the decommissioning, you know, the dismantlement and decontamination at the end. Some of them do it up front. The waste facilities--different locations, crisscrossing the country. Some of them may be close in. What is that called? Columbia Nuclear Plant. The new one--up in Washington State--Columbia Generating Station. Their's is right across the road. One of the California plants has to ship to Barnwell. That's all the way across the country. So we looked at all these different things, and we thought, okay, it's going to be, you know, quite a considerable job. And where do we draw the line? It's like I said, some of these things, like when you look at ecology, the endangered and threatened species or the historical and archaeological information, that stuff has--well, I don't want to say has to, because we're still in scoping. So I don't want to come with foregone conclusions, but the more we've seen--and I've worked on these kinds of impact statements, both looking at the generic ones and using the generic one for license renewal, and looking at it at license renewal of nuclear power plants, I know that some of these things will probably

end up being site-specific. There's no way around it. Some of them, like the socio-economic, well, like the costs, that's a good example. The costs are going to be different, but you can put a cap on that. And you can say, okay, for the decommissionings that we've had and that we're considering at these different sites. We're assuming that this is probably the most they will have to spend.

Now rather than--and cost may be a bad example, because we do go in and do a site-specific cost estimate. So let me throw one in like socio-economic impacts.

Those are pretty much, maybe pretty much, given as we look around the sites. You know, there's going to be a big loss of tax base to the community. It may--there may be a range from some plants that are close in to a metropolitan area, where the tax base is not that important from the utility, to places like Maine Yankee, where I think it pretty much decimated the town. That was 90 percent of their tax base--90 percent cost. And so we may be trying to do ranges here.

Now the reason--I think one of the reasons that they do try to do this and put this in the generic method is because then the NRC can spend their time and their resources looking at the site-specific things. Rather than

going back through and looking at maybe everything for every plant, they can kind of focus in on what might be important. That's one of the reasons. I don't know if that answers that, and if you have any--

MR. CAMERON: I think that was--gives people an idea of what exactly goes into a generic environmental impact statement, and I think from a process point of view, Glenn's comment about we think this issue should be site-specific is a legitimate comment during scoping that will need to be addressed by the NRC in the scoping report and the draft environmental impact statement. I think that the types of things that you were talking about Becky is going--we're going to have to be made--the NRC will have to demonstrate that, indeed, it is feasible to treat some of these--all of these, whatever it is, to be able to treat them legitimately through generic. And I'm sorry, why don't we go to you?

MS. KOTO: I'm Jen Koto. I'm Jen Koto. I'm here for Physicians for Social Responsibility and Women's Actions New Directions, okay.

I have a question before I pose a comment. My question is, once these are actually decommissioned, and you guys are out of the pipe then, so to speak, at that point,

would the states be able to use any facility through the EPA to demand further clean up. Does the EPA have any avenues for the states to employ?

MR. CAMERON: That's a good question. I think there's an answer to that. I don't know if Paul is going to speak to it, but--go ahead.

MR. WAGNER: Let's make sure that I understand your question.

MS. KOTO: Yes.

MR. WAGNER: I think you're saying after the license is terminated, can we EPA require something more? I think the way it stands now, as I said before, EPA, excuse me, NRC has authority over license termination. As Steve said, once the reactor gets decommissioned, the state has the authority to require more I assume. And EPA deals with contaminated sites through the Superfund. And I don't think it would really anticipate using Superfund to deal with this. We're expecting that NRC and the licensees generally are going to get the levels of radioactivity down to a level where it is acceptable as far as risk levels.

MS. KOTO: As far as you're concerned, you agree with that?

MR. CAMERON: Okay, let's go back over and get this

on the record. I think Paul's answer was pretty clear that Superfund could be used, but it probably--there would be authority to use Superfund, but it probably would not be used is what I think I heard you say. And Paul's agreeing with that. Jan, do you have other questions?

MS. KOTO: That's another level. I'm aware that Hanford studies still show that the 5 millirem standard is producing significant increases in cancers. In my opinion, there's some information on that. So--going back to the standard again, you're decreasing to five times that, and so I suspect considering that, and considering synergistic effects of other toxins, other industries in the area, sites-specific is invaluable to the health of the nation, and the health of each individual site. So I can't stress that more.

MR. CAMERON: Okay, thank you very much, Jen. Is there anything to say on the issue of--that Jen raised about other hazards from--hazards from other facilities near the site--the cumulative impacts. Carl?

MR. FELDMAN: The license termination rule took some of that into account, at least the international committees and national committees on radiation standards used 100 millirem number, which they said was a safe level

to decontaminate to. And that's been used in standards, but we looked at it in terms of when you decommission, you could have other sources of radioactivity. So we divided it by four, and that's how we came up with the 25. So we did that part of it. There could be other synergistic effects. I'm not--you know, I can't speak to that.

MR. CAMERON: Okay. Did you want to follow up on that, Jen?

MS. KOTO: Especially considering that you can't speak to that, and there are natural sources of radiation varying from area to area, as well as the toxic waste. I think it's very vital to--to go site-specific.

MR. FELDMAN: Let me just--clarification: the 25 millirem is above the background radiation. It's in addition--it's the distinction between background radiation and anything additional. So if you have other sites with additional radioactivity as a background radiation that doesn't affect the 25 millirem. That's--because that's there as natural occurrence. Just like you go to a greenfield. If you went to a greenfield, before you started, you had a background radiation. Now you have built a plant and you want to decommission it, and you have some residual, but it's above background. And so the 25 millirem

is a number that is above background.

MS. KOTO: Yes, but there are some sites that already have higher degrees of background radiation, so that's another reason that a sites-specific decommissioning is very necessary. Thank you.

MR. CAMERON: Okay, before we go back out, and I know that Catherine has a statement that she's going to read to us before the night is over, but there were a couple of, you know, important things that I think should be clarified that come out of something that Glenn started us off with tonight.

Becky went through the purpose of the PSDAR. Glenn was asking earlier about when was the public get an opportunity in this process to--it wasn't to do something meaningful, but when is the public going to be listened to, and you were focusing on intervention--adjudicatory hearing. But Becky prompted on the fact that in the PSDAR one of the things that the licensee--that the licensee has to provide is something that enables the NRC to see if the environmental impacts are within whatever is in the generic environmental impact statement. And I guess my question to the NRC is that when we go out and do a PSDAR meeting with the public, and the public says, we don't think that the

impacts on this type are within the generic environmental impact statement. You know, that's a comment that the NRC is going to be required to consider, and I'd guess I'd like some affirmation of that for people; but also--how will people in the public know--have any idea about whether a site-specific impact is going to be within the envelope of the generic environmental impact statement. In other words, is the public going to be provided information that the licensee provides on what the environmental impacts are? So is that Steve, then Dino. Do you have the time to know.

MR. LEWIS: Let me try something. And this is like a lawyer trying to describe that NRR's going to go through. But I did have some involvement in counseling them on it, so I'll take a crack at it. We will--earlier there was mention, Becky mentioned an inspection procedure--in general, we are moving. We have I think currently a temporary instruction. Forget about the terms. Those are bureaucratic terms. It doesn't matter. The point is that we're trying to put on paper so that it is clear to our personnel who have to execute this function what they need to do when they go out at the time of reviewing the PSDAR to probe into the meaningfulness of the PSDAR. PSDAR is not a lengthy document. Just reviewing the PSDAR by itself would

not take a knowledgeable staff member very long. We do not require it to be extensive. We do not require it to be one thing or the other. We just--we lay out certain things in 50.82 that it needs to address.

But the idea behind our inspection guidance is that the environmental specialist who goes out and is doing basically we'll call it an inspection. It's going be in an inspection report. That's one thing I wanted to say is eventually--I'm stating myself very poorly. Eventually is not a very--is not what I'm trying to indicate. The--somebody from the NRC headquarters office, who is an environmental specialist, will go out and will look into the records; will probe behind the statements and conclusions made in the PSDAR that for that particular site what the licensee is proposing to do is within the bounds of previously considered environmental impacts.

MR. CAMERON: That's this point, right?

MR. WAGNER: Exactly, and will write up his or her conclusions and that will be presented publicly; it will be in an inspection report. And I think that we are learning a lot from these meetings because one of the things that you correctly recognized, Glenn, was that the Commission, when it adopted the 1996 rule on decommissioning, was of the view

that a generic environmental impact statement approach could be used as a significant contributor to making the determinations that need to be made, even site-specific determinations. However, it didn't say that the generic environmental impact statement would provide all of the information. By any means, it also said that all of the site-specific environmental analyses and statements and reports, evaluations would have to be considered.

So, I mean, I really do think that that's an area in which the Commission is very much interested in hearing what people's views are about how much we can, in fact, fulfill our mission through the generic process and how much has to be site-specific.

MR. CAMERON: Okay. Steve, thank you for talking about how the NRC is going to look at that. That should give some assurance to people. I guess that other point, though, is that in relationship to that last bullet, and, Dino, I'm going to go over to you on this or the related issues, where does the public get to recommend to the Commission or provide advice to the Commission on that last point. And what types of information would be available to the public so that they are able to make points like that. Dino?

MR. SCARLETTI: Dino Scarletti, from the NRC. As Steve just said, we will do our environmental assessment of the PSDAR and the statements that the licensee has made in the PSDAR to compare the impacts of decommissioning against those impacts that were identified in the operating license of the final environmental statement as well as the generic environmental statement. Those will be made publicly available. We briefly discuss them at the time of the post shut-down decommissioning activities report. We report at public meeting. We do the evaluation before the public meeting. Now, granted, in the past, that the--and we're trying to improve our inspection report in within our letter to a licensee, identifying what found. This letter has always gone out before the meetings. So--but--we're trying to improve that and resources, the state has been pushing us, and we're doing better. And we will eventually get into the form where we will have the--report out well before the people in the meeting.

Now, there--we--I'm with the NRC, and if the public or a group has a concern, as you well know, there's always the mechanism of writing a letter. And I have never known of an instance where we have not responded--sometimes begrudgingly, but we have responded. And we always will,

and that's our policy. So it's that information, it's always the course of action you can take. But--

MR. CAMERON: Okay, I just, and we'll go back out, if you want to say anything about this, but I just wanted to make sure that people understood that the PSDAR process is not totally devoid of an opportunity for public influence, and the other thing that I just wanted to clarify, again related to a point that Glenn raised, is when Becky was going through the steps in terms of license termination, she went to termination of the license. This--before the license can be terminated, there is an opportunity, as Steve pointed out earlier, for an adjudicatory hearing on whether the license should be terminated. In other words, did the utility really meet the requirements. So I think that we need to understand that before that license can be terminated, there is an opportunity for people to intervene on that license termination, okay? So questions, comments. Scott, you want to hear again?

MS. CARROLL: Now, the--had thought that--discussed that talks cheap. Now the NRC has answered every single thing I've ever said, but it's not like I'm, you know, think they're going to say. So one of the things I might be mishearing, but informing the public of what you're thinking

and really being open to the public saying, well, we're really not comfortable with that. I'm sorry I wasn't paying attention to the last four years, but now I'm paying attention, and I don't think I can live with this, and my children and my children's children.

So I think that whatever you create, and unless you're snowing me I'm hearing that it does have some open-ended stuff. I mean, we think they're actually creating a document that has a site-specific component. I'm hearing that. I think it should include a citizens' word, or some sort of citizen participation as an official or of the process at the end.

Now, one of the things that's really bugging me, because like we--by the way, we're an all volunteer group. I don't know where, but why don't I just leave this, because Chernobyl--we work on the bomb factory that's near us. We work on foreign level. We're working on nuclear. I want to say that it's not possible to have a dump program in this country; that the way we've been approaching it is unacceptable to environmentalists. So it is our business to block every single dump proposal, because it all comes from this mind set that we're going to put it in here. We're going to bury it over. And we're going to pretend that it's

not going to get ground water, or we're going to pretend that it's not going to get in the Colorado River. We're going to pretend that while you're dumping at Yucca Mountain repository. So my mind set is there will be no dumps unless something changes in the approach that's been taken by the powers that be towards the dumps.

That means we're not going to let this dump go away from those sites. Now, one thing that's just kind of crazy is, you know, we got to think about this. And we've room to cut that. We got no other conditions--we'll be here. And we got no other conditions. So it kind of blows my mind that we try and pin this down, and it's such an enormous beast.

I've always thought about this with the mind set that there wouldn't be dumps, because we've got plenty, and they did cite and suggest their religion to make more contaminated sites. So I had thought there would be quite a longstanding legacy in the 100 plus communities that host these reactors.

And so, you know, an important component that this is a time to close down the business has been, for me, how do we empower the community to live and work and farm and forget that they are living with this legacy. So it occurs

to me that there has to be a trust fund set up, too. There has to be some really interesting, new ground made in anthropology and thinking forward. I mean, this is out there. We'd like to figure out what number?

So that needs to be considered here--a body of citizens that are empowered as best in handling utilities and regulatory authorities to remember forever. I worried about whether they'll be enough money. And I don't think your generic environmental will take care of that.

MR. CAMERON: Okay, thank you very much, Glenn.

Why don't we shift gears a little bit and let Catherine read her statement. And, Catherine, you can come up here if that's more comfortable for you. You just introduce yourself for the record.

MS. MITCHELL: I'm Catherine Mitchell with the Blue Ridge Environmental Defense League. We have four recommendations we'd like to make tonight for the proposed supplement for the generic environmental impact statement.

First of all, nuclear power plan decommissioning must result in no additional exposures of the public to ionizing radiation. Decommissioning must, therefore, a: either return the plant site to background radiation level which existed at the time of the original plant license. Or

if decommissioning activities cannot occur without public exposure, plant sites must be monitored without reactor dismantlement until the point at which cooling is sufficient to allow reactor dismantlement with no additional public exposure.

Number two, the NRC must not be allowed to recalibrate and redefine background radiation levels which give nuclear power plants and other nuclear facilities an incentive to--an incentive, rather--to emit higher levels of radionuclides and which raise the level of risk to expose populations both at the plant sites and secondary exposure pathways including downwind, down stream, and transport communities.

In other words, the NRC cannot simply change the definition of background radiation to include the effects of nuclear plant regular operations, accidents, such as Three Mile Island and Chernobyl, and activities such as nuclear weapons testing.

Number three, the NRC must not license additional at reactor activities, which would increase decommissioning hazards, including license extensions, which would concentrate radionuclide contamination at the plant sites. And b, the use of plutonium fuel, which would increase the

radioactivity level from both the use of fresh plutonium fuel and waste fuel storage.

The reopening of the generic environmental impact statement on decommissioning is an attempt by the Nuclear Regulatory Commission to codify changes which would number one, reduce liability for the nuclear industry, and number 2, increase environmental damage and public health risks from closed nuclear reactors.

Two examples provide ample insight into this project. Number one, the Yankee Row Nuclear power reactor was dismantled after cessation of power production. The closure occurred with no published decommissioning plan, and utilized methods which did not adequately control releases of radioactivity or toxic chemicals to plant workers and the general public.

At Sequoia Fuels' Uranium Conversion facility, General Atomics, this is number two, created a shell corporation with no assets and transferred the site to the new entity. The ground water at the Gore, Oklahoma site now has a higher concentration of Uranium than most Uranium ore on the open market today.

There is no money to clean up radioactive contamination at a site that threatens people in a large

area of Oklahoma today. Furthermore, the contamination is bound to get worse because of waters--of wastes--pardon me--of waste buried on the site, and the State of Oklahoma is left to clean up the process. The worst examples of nuclear decommissioning in the nation--Sequoia Fuels and Yankee Row are the precedents which NRC is now trying to turn into a generic formula for future decommissioning.

The NRC grants a license to nuclear power reactors for a period of 40 years. The licensee can seek to renew the operating license of the plant for another 20 years, or can cease operations for and begin the decommissioning the process. A condition for an operating license requires the licensee to commit to decommissioning the nuclear plant after it ceases power operations. This requirement is based on the need to ensure public health and safety and the protection of the environment. Title 10 of the Code of Federal Regulations defines decommissioning as the removal of a facility from service, reduction of residual radioactivity to a level that permits termination of the NRC license, and the release of the site to unrestricted use; that means buildings, equipment, soil, ground water and surface water would be affected by the operation of a facility which utilizes radionuclides. Decommissioning

should involved the dismantling of radioactive components and the decontamination of the site environment. The methods we've already discussed earlier, and I won't reiterate that for this meeting tonight.

Following the completion of the adopted decommissioning process and the issuance of the license termination, the reactor operator and the Nuclear Regulatory Commission terminate all custodial care. Help then in environment liability and regulatory oversight. There are a growing number of public concerns with regard to the implementation of the GEIS for decommissioning of these reactors.

Now the NRC continues to downplay the public and environmental risks associated with decommissioning through a number of potentially false assumptions made by this generic environmental impact statement. These assumptions must be addressed and the true risk discovered before any further generic considerations are implemented.

One of these assumptions, as stated by the NRC, is that decommissioning is not an imminent health and safety problem. In fact, upon cessation of power, the NRC pulls its on-site inspectors from the reactor site, constituting a degraded level of regulatory oversight. Some

decommissioning operations conducted by licensees, as in the case of the Yankee Row Nuclear Power Station, have spread radioactive hot particles from contaminated areas into previously uncontaminated areas, potentially introducing transportation and contamination off site--area motels, water supplies, that kind of situation.

A second assumption is that it is not expected that any significant environmental impacts will result from decommissioning; therefore, a current 10 CFR 51 needs to be amended to delete the mandatory ERIS requirement for decommissioning power reactors. An EIS may still be needed, but this should be based on site-specific factors.

Well, the finding of no significant impact may not be made without a thorough analysis and an environmental assessment. Experience indicates that environmental impacts will result from decommissioning activities. The dismantling and shipment of highly radioactive reactor parts and containment structures, i.e. decommissioning, would plainly put the community and the workers at risk.

Shipments of a reactor containment vessel from Vermont Yankee to the Barnwell low-level radioactive waste site did expose people living along transport routes to radiation. The Blue Ridge Environmental Defense League

documented this during the rail shipments conducted by the utility in 1998.

Another assumption -- technology for decommissioning nuclear facilities is well in hand and can be performed safely and at reasonable cost.

This is not in evidence since Yankee Rowe has retracted its license termination plan and did not receive a license termination approval based on the issue of residual radiation standards for the nuclear power station cleanup. Clearly, no decommissioning process is complete without an in-place nuclear waste management plan.

Low-level nuclear waste sites around the country are leaking, and new sites are becoming even more difficult to site and to license.

High-level nuclear waste site characterization and licensing schedules continue to slip as the only site under consideration, Yucca Mountain, presents unresolved technological problems.

No further action on the generic environmental impact statement of decommissioning should go forward until the NRC and the Environmental Protection Agency have come to an agreement through a memorandum of understanding regarding what levels of residual radiation will be permitted for the

termination of the license.

Currently, the NRC and EPA are in disagreement. The NRC advocates a standard of 25 to 500 millirem per year; the EPA sets the standard at 4 to 15 before a site is released for unrestricted public use.

The current decommissioning environmental impact statement does not look beyond the reactor site boundary for areas of radiological remediation. The NRC and the utility should be held responsible for any cleanup operations that extend beyond the site perimeters as the result of contamination that migrates through ground and surface water, tracking of particles as the result of decommissioning procedures, plasma cutting of radiated components, et cetera, or the migration of contaminated materials off site, such as tools, construction blocks, soil, et cetera.

Thank you for the opportunity to present the remarks and we plan to submit further comments before the 15th, July 15th deadline.

MR. CAMERON: Okay. Thank you very much, Katherine.

Okay. Are there other comments or questions for the NRC at this time before we conclude?

SPEAKER: Thank you. Can you conceive of the possibility of insuring the site? Is it even insurable?

MR. CAMERON: You understand that question, Steve. You look like -- Steve? Dino? I don't want to put the onus on Steve, but anybody want to tackle that one?

MR. SCALETTI: I'm not sure. Tell me what you have in mind when you say insuring the site because then I might --

SPEAKER: Earlier, Glenn spoke to a trust fund and money necessary for cleanup after you have washed your hands of each individual site, and I thought of the situation we would be in if you were required to insure by an insurance policy on each site to handle any upcoming episodes, any upcoming glitches, health problems.

MR. CAMERON: Dino, can you address how the funding works in relationship to that?

MR. SCALETTI: Okay. I think -- I want to make sure that we're talking about the same thing. We're talking about at the time of license termination?

SPEAKER: Beyond the time of license termination.

MR. SCALETTI: No, but I mean -- okay. All right.

SPEAKER: Upon license termination.

MR. SCALETTI: Okay. Well, the regulations --

there is -- I don't know whether insurance is the right term to use for it or not, but the licensee is required to establish a fund -- I think it's basically a trust fund -- for monitoring and maintenance of the site. You know, like if it's an engineered disposal method of some type, for monitoring the maintenance of that.

The licensee -- I think the licensee is required to do that because we don't necessarily assume that the licensee as an entity is going to continue to exist forever into the future -- in fact many of them don't exist now under deregulation. But it is required that there be not only the engineered features, but also certain controls depending on whether or not we go restricted or unrestricted release.

SPEAKER: It's only for the case of restricted release where the additional monetary funds are. Obviously if it's unrestricted release, then that's the end of the story as far as we're concerned. If it's restricted release, then there are restrictions that have to be in place and those restrictions have to be maintained and monitoring has to be continued, et cetera, to the extent that it was determined when that license was terminated. So monies are set aside for that purpose. That's the trust

fund.

MR. CAMERON: So that may address some of the problems.

SPEAKER: Some of them.

MR. CAMERON: But I think you're probably also thinking about liability for any future harm that comes about in terms of a trust fund. Steve, I don't know if you want to get into the thorny issue of tort law and what the remedies are for people on that and who might be liable, but I think that that's part of Jan's concern about the use of a trust fund to pay for these types of damages.

MR. LEWIS: Has Chip correctly captured what you were -- the additional thing you were getting at?

SPEAKER: At least part of it. I would like to hear what you have to say about that, yes.

MR. LEWIS: Okay. Well, one of the things that the NRC is undertaking rulemaking on is the question of when Price Anderson coverage -- Price Anderson meaning required public liability coverage, insurance put up by the nuclear utility industry and contributed by each power reactor licensee -- when that terminates, can terminate, and also whether it needs to be maintained at the same level as during operation.

So there will be rulemaking on that. In fact, rulemaking on that subject really went out as a draft rulemaking for comment in 1998, I think, but it's now been put into a matrix where there are about five different subjects of concern when a plant shuts down.

Once there is no longer fuel on the site, on the 10 CFR Part 50 site licensed by the NRC, there is no longer a requirement under the statute, Atomic Energy Act, for Price Anderson coverage.

So I think that in the case of restricted releases, which is really the new development that we put out in 1997, and where we looked at that, there would be the need for someone to fund, to pre-fund for monitoring and maintenance, there, we have required funds to be put up.

In other situations where we will make -- you know, would make the determination that the site can be released for unrestricted use, that's the NRC's view, that, at that point, there is no public health and safety risk such that the kind of insurance that was previously required would still be required.

So I hope that answers something.

SPEAKER: Okay.

MR. CAMERON: Okay. And I think we heard your

recommendation on that.

Do we have anything else?

SPEAKER: Would you be willing to build NRC buildings on top of the sites?

MR. CAMERON: She asked would you be willing to build your NRC buildings on top of the site.

MR. LEWIS: Yes. You know, I -- these kinds of questions -- in general, as a citizen, my attitude about any of these kinds of things is whenever anybody wants to do anything close to my house, I go out to the meetings and I ask a lot of questions. And I don't -- you know, I don't just roll over about it.

So I guess you're asking me question sort of as a citizen, because I can't -- I'm not -- you know, I really can't answer it the other way, but as a citizen, any time anybody wants to do something near where I live or near where my family lives or anything, I always have a lot of questions.

MR. CAMERON: Okay. Do you have one more?

SPEAKER: Yes. Just a statement, that with all the exceptions that I've heard that will be considered from site to site under a GEIS, it sounds like we're not really generic and maybe we ought to just drop the G.

MR. CAMERON: Okay. Thank you. I think that reaffirms a comment that Glenn made earlier, and I thank Becky for trying to at least give us an idea about what the methodology is. But it just underscores the need to really demonstrate that that is a viable methodology in view of the points that have been raised.

Anybody else have anything to say before we close up tonight?

I would just like to thank you personally and from the NRC's view for coming out and taking the time, not only the individuals, but the organizations that sent you, and also our sister agency, Paul and EPA. Life is so hectic these days that it takes a real commitment to come out for -- you know, to even come out. So we really appreciate that.

I guess I would ask Dino as the project manager -- Dino, do you want to say anything before we close, any final words?

MR. SCALETTI: The information sheet out there has my e-mail that we use specifically for this project and my phone number is there also, an 800-number.

MR. CAMERON: You know, seriously, these NRC people are very, very committed to doing their job, and when

they say if you need information or you want to talk to call them, I mean, call them. That's something they're there for.

MR. SCALETTI: We are setting up a website, and hopefully within two weeks we'll have a website that all the transcripts will be on. So we'll have that, and once we get it set up, people have signed up at these meetings, I will send out notification for what it is and how to get to it.

MR. CAMERON: Okay. Thank you.

MR. SCALETTI: Thank you.

MR. CAMERON: Thanks, Stephen.

[Whereupon, at 9:28 p.m., the meeting was concluded.]